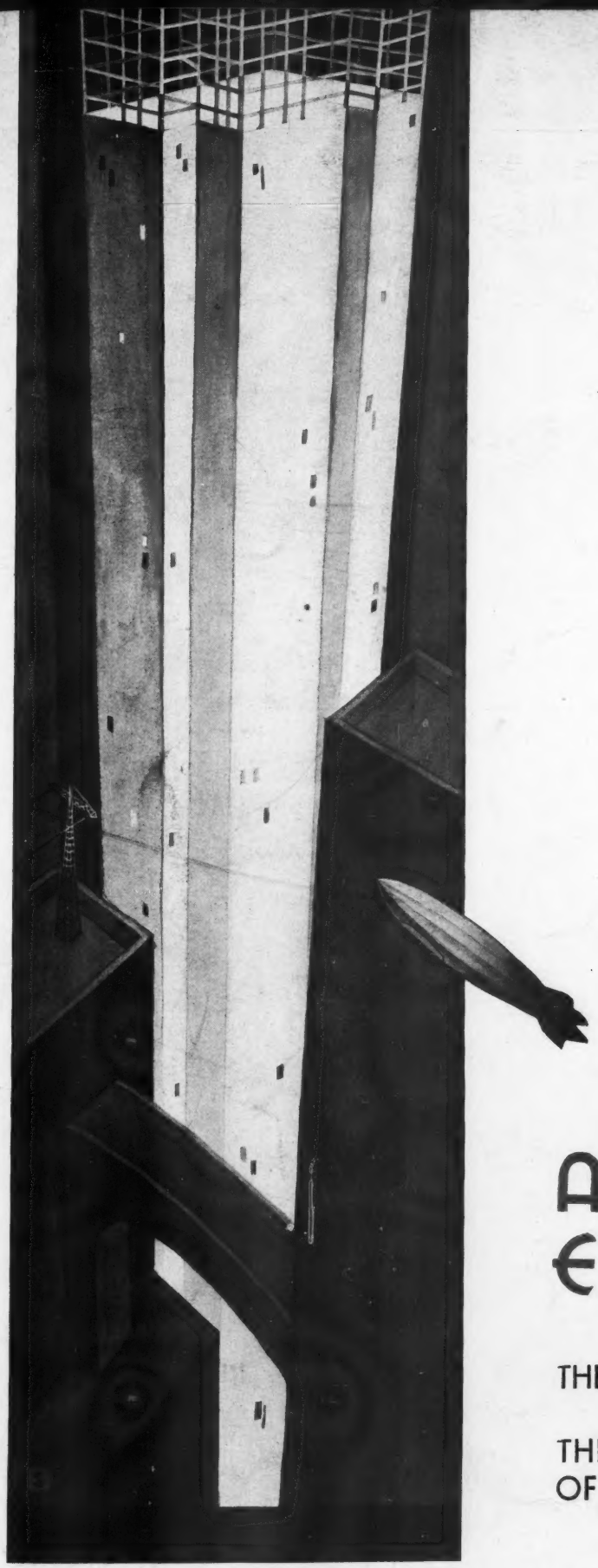

The AMERICAN ENGINEER

OFFICIAL PUBLICATION
THE NEW YORK STATE SOCIETY
AND
THE NEW JERSEY ASSOCIATION
OF PROFESSIONAL ENGINEERS

SEPTEMBER ++ 1932

BEFORE

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August 29, 1932

OFFICIAL ANNOUNCEMENT

THIRTEENTH ANNUAL CONVENTION

INVITATION. Those receiving this Convention Announcement, who are not officially appointed delegates, are to consider same as a personal invitation.

DATE. September 29, 30 and October 1, 1932. These dates will make it convenient for delegates to attend the following meetings also: American Association of Engineers meeting in Washington, D. C., September 26 to 28, and American Society of Civil Engineers meeting in Atlantic City, October 5 to 8.

PLACE. New York City. Hotel Pennsylvania has been selected as convention headquarters. Reservation cards should be forwarded to the hotel as early as possible. Hotel Pennsylvania has guaranteed the minimum rates for our delegates.

TRANSPORTATION. Delegates should consult their local railway agents as to special rates in force from their locality. Thirty-day summer excursion tickets of "fare and one-half" rates will be on sale September 24 and 27 in all States in the Southeast and Central West. Season limit summer excursion tickets will be available until September 30 from points in the far West.

DISCUSSIONS. The program shows in detail the hours of business meetings and entertainment features. Printed copies of this program are available.

The business transacted will include reports and discussions on Uniform Examinations for Registration, Model Registration Law for Professional Engineers and Land Surveyors, National Bureau of Engineering Registration, Engineers' Council for Professional Development, Accredited Engineering Schools. All business sessions will be open to the public.

ENTERTAINMENT. New York State Society of Professional Engineers, with the cooperation of other local and national engineering societies, is planning to make the annual banquet, at which there will be distinguished speakers and guests of honor, an outstanding feature.

The Entertainment Committee has also arranged for an interesting sightseeing trip, which is complimentary to the delegates.

T. KEITH LEGARE,
Secretary.

CONVENTION PROGRAM

NATIONAL COUNCIL OF STATE BOARDS OF ENGINEERING EXAMINERS

Hotel Pennsylvania — New York City

THURSDAY, SEPTEMBER 29, 1932

9:00 A. M.—Registration of Delegates and Guests.

10:00 A. M.—Business Session (see note).

12:30 P. M.—Group Luncheon for Delegates and Guests.

2:30 P. M.—Business Session (see note).

4:30 P. M.—Committee Meetings.

7:30 P. M.—Banquet.
New York State Society of Professional Engineers, with other local and national engineering societies, will be host to the Delegates of the Council.

FRIDAY, SEPTEMBER 30, 1932

9:30 A. M.—Business Session (see note).

12:30 P. M.—Lunch (as you please).

2:30 P. M.—Business Session (see note).

5:00 P. M.—Adjournment.

SATURDAY, OCTOBER 1, 1932

9:30 A. M.—Sightseeing trip through upper New York and Westchester County parkway system, leaving from Hotel Pennsylvania and returning about 4:00 P. M. No expense except for lunch.
NOTE:—The Order of Business as given on page 127 of 1931 Proceedings will be followed at business sessions.
All business sessions are open to the public.

To Professional Engineers:

The 13th Annual Convention of State Boards of Engineering Examiners, which will take place in New York on September 29th and 30th and October 1st, will be the occasion for national recognition of the services rendered by Dr. David B. Steinman, in behalf of the engineer and his profession.

That he has been the outstanding individual personal force in bringing recognition to the engineering profession is pretty well known to engineers throughout the country and the Council of State Boards officially representing twenty-five states, in conjunction with the various engineering societies and their branches in the Metropolitan District, intends to present him with a testimonial. The form of this is at present undecided, but will be of such type as to permit an inscription or engraving of recognition signed by all participating organizations. A silver service with a plate properly inscribed has been suggested by T. Keith Legare, Secretary of the Council, and will probably be selected.

The New York State Society, which is playing host to the assembled Boards, whose presiding officer is President Steinman, is soliciting small and individual, or organization contributions, to be used in connection with the testimonial. Any amount, regardless of how small, including coins, will be greatly appreciated and insomuch as the desire is to have quantity, rather than quality, of subscription it is hoped that all licensed professional engineers will make a small donation. As no acknowledgment will be possible it will not be necessary to even sign one's name unless the donor so desires.

The testimonial will be presented at a dinner, which will be held on Thursday, September 29th at 7:00 P. M., in the Hotel Pennsylvania, 33rd Street and 8th Avenue, New York, N. Y. At this dinner it is expected that the Mayor of New York and other distinguished guests will address the assemblage to be composed of representatives of the State Boards together with engineers and their guests, including ladies, from every engineering organization in the New York, New Jersey and Connecticut areas.

The various engineering societies have already signified their intention to cooperate and a composite reception committee of distinguished engineers is being formed. The entire proceedings of the Convention, including the business sessions and discussions of the 29th and 30th, as well as a trip over the Westchester County Parkway System or around New York's waterfront, will be open to the public without charge.

The subscription for the dinner of the 29th, which will be followed by dancing, will be $5.00 for gentlemen and $4.00 for ladies.

Contributions and requests for dinner tickets should be addressed to either of the undersigned committee.

Please make an effort to assure the success of this testimonial to Dr. Steinman and, if possible, attend the Convention and participate in its discussions.

ARTHUR V. SHERIDAN, Chairman.
T. KEITH LEGARE, Secretary.
Room 2952, Grand Central Terminal, New York, N. Y.

P. S.—Dr. Steinman is not aware of any testimonial to himself.

THE AMERICAN ENGINEER

OFFICIAL PUBLICATION
OF
THE NEW YORK STATE SOCIETY AND THE NEW JERSEY
ASSOCIATION OF PROFESSIONAL ENGINEERS
12 FIRST STREET, SAUGERTIES, N. Y.
and
POSTUM BUILDING, 250 PARK AVENUE, NEW YORK CITY

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Arthur V. Sheridan, Editor

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THE AMERICAN ENGINEER

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12 First Street, Saugerties, N. Y. and Postum Building, 250 Park Avenue, New York, N. Y.

NUMBER 9 SEPTEMBER, 1932

AN ACADEMY OF ENGINEERING

National Societies Should Unite

WITHIN the last twenty years more than a score of national societies of a technical or scientific character have come into being. The membership in most of these is comprised of persons who specialize in one or more particular phases of engineering. Unfortunately for the profession these organizations have helped to create the impression in the public mind that engineering is a nondescript calling which includes, as a recent critic expressed it, alike the President of the United States and the backwoods mechanic. Whilst in some instances the requirements of admission are such as to restrict the membership to qualified engineers the said requirements vary to such an extent that some societies admit persons who are not engineers nor even associated with engineers except in so far as they contribute materials or workmanship for engineering projects.

A reflection upon the situation will readily convince any impartial reviewer that the indiscriminate creation of engineering societies is harmful to the profession and to the prestige of the professional engineer. The ever-increasing number of national organizations, with an accompanying lowering of requirements for admission therein, is counteracting the efforts that are being made to raise the standards and to place the engineer in the category of a learned professional man. Some so-called national engineering societies are not, in truth, engineering bodies at all and are composed of salesmen, sociologists, mechanics and various others who are not possessed of either engineering training or engineering practice.

The Licensing Board in New York has found that, with few exceptions, little or no recognition can be accorded applicants on the ground that they are members of a national engineering society. This is, in itself, indicative of the need for an amalgamation of national engineering groups with a view to creating a body which, recognizing the unity of the profession, may have under its direction and within its power chapters, sections, or other forms of society organization, composed of specialists in electrical, mechanical, sanitary, chemical and other specialized branches of the single profession of engineering.

The so-called founder societies at present offer the nucleus of a great scientific body to be given over to the promotion of science and the art of engineering in all their branches. Such an organization under the title of the American Academy of Engineering could comprehend Canada and other American countries. The functions of such a body would be to continue in a co-related fashion the splendid endeavors of the American Society of Civil Engineers and its various offspring such as the National electrical, mechanical, chemical and mining societies.

The magnificent advances in engineering during the last half century are almost entirely attributable to these organizations. That is the field in which they should continue their endeavors, leaving the professional and social activities to other groups organized especially for such purposes and which are coming into being in the various states and which must sooner or later result in a national association or clearing house for their own field of activity.

The national societies have functioned well as scientific and technical bodies. To divert their attentions into other channels will but lessen their value in the field for which they are best suited, both by tradition and form of organization. It is hardly likely that any organization can function effectively in the field of scientific endeavor and social or political activity at the same time.

There is today an unnecessary number of engineering organizations. The New York State Society has pointed out on numerous occasions the need for a reduction in the number of such organizations. A consolidation would result in a material saving in dues to the engineer; and the existence of a minimum number of effective and recognized societies to whose membership every engineer could aspire.

The founder societies are invited to give joint consideration to the question of amalgamating under the name of the American Academy of Engineering, which, with headquarters in Washington and secretariats in required other places, would command the respect of nations. Membership in such an organization would be significant of accomplishment and the cherished ambition of every American engineer.

"PROTECTION OF THE TERM ENGINEER"

2. How Our Professional Designation Should Be Restricted

By D. B. STEINMAN,
President, N. Y. State Society of Professional Engineers
Past President, National Council of State Boards of Engineering Examiners
Past President, American Association of Engineers

IN a preceding article, the many current abuses and misappropriations of the designation "Engineer" were outlined, and reasons were cited for a determined effort to end the unauthorized appropriation of the term by non-engineers.

Once the importance of restricting the use of our professional designation is recognized, the next question to be answered is: "Can this be accomplished?" The answer in the affirmative is emphatically supplied by the successful precedents of the other legally restricted professions. Any unqualified man hanging out his shingle as a "Lawyer," a "Physician," a "Dentist," or an "Architect," will be promptly arrested and subjected to the penalties of the law. These respective professions will see to it, and the agencies of the law will back them.

Can the same thing be accomplished for the designation "Engineer?" It certainly can, and the way has been shown. In a recent decision, the Court of Special Sessions in New York, by unanimous vote of the three judges, sentenced a man to sixty days in the workhouse (with sentence suspended) for using the designation "Civil Engineer" on his letterhead when he had no license to practice professional engineering. It was the first conviction under the Engineers' Licensing Law of the State. The District Attorney had been unable to establish that the man's practice constituted "professional engineering" as defined by the statute, but the use of the designation "Civil Engineer" was held by the court as conclusively showing that the man was "holding himself out" as a professional engineer. And this court decision was made before the statute was amended to include an explicit injunction against unlicensed use of the professional designation.

Moreover, for two years prior to this court decision, the New York State Society of Professional Engineers had been successfully waging a campaign against the indiscriminate use of the designation "Engineer." Through diplomatic but forceful communications addressed to individuals and corporations, citing the law and explaining the attitude of the profession, scores of abuses and misappropriations of the term "Engineer" were successfully corrected without recourse to the courts.

These precedents point the way. Our professional designation *can* be restricted, and the way to accomplish this objective is *through an educational campaign backed by legislation.*

We must improve and perfect our registration law in the various states so as to include direct, unmistakable prohibitions against the unauthorized use of the designation "Engineer;" and we must educate the public to know that these laws exist and to respect and appreciate them.

It is not sufficient to protect the designation "Professional Engineer." That would make avoidance of the statute too easy. Any unqualified man could then evade the issue by styling himself "Consulting Engineer," or "Mechanical Engineer," or "Hydraulic Engineer," or the like, with impunity, and the public would be misled.

What is necessary is to restrict the unauthorized use of the designation *"Engineer,"* with or without qualifying adjectives. Any unlicensed man who styles himself a "Civil Engineer," or an "Electrical Engineer," or an "Industrial Engineer," is posing as a member of the engineering profession; he is seeking to convey the impression that he has our professional qualifications; he is holding himself out as able to give professional engineering services; and he should be stopped.

The architects encountered a similar problem. Some years ago they learned, in a court decision, that their registration statute in New York State accomplished only the protection of the title "Registered Architect." They promptly had the law amended so that now it explicity prohibits the unlicensed use of the designation "Architect," with or without adjectives. Similarly we must protect the title "Engineer," with or without *any* adjective of professional connotation, and not merely the artificial and ignored phrase "Professional Engineer." If we encounter difficulty in establishing the desired interpretation, the adjective "professional" will have to be deleted from the pertinent clauses of our registration laws. What is possible for other professions is possible for ours.

The phrase "professional engineer" has perhaps received too much emphasis in our licensing laws. It is an artificial phrase, coined for convenience of statutory reference to distinguish members of the engineering profession from those others who are popularly known as "engineers" because they operate engines. The distinction is between professional engineers" and "operating engineers." The latter should more properly be called "enginemen," "engine operators," or "engine runners."

Considerable progress has already been recorded in establishing the use of the term "enginemen" instead of "engineers" for men who operate engines. Corporations, contractors, directories, civil service commissions, and census bureaus have given their cooperation to this end. It should be a part of the educational campaign of our profession to persuade the public in general and employers in particular, in the interests of clarity and propriety, to designate engine operators as "enginemen" and not as "engineers." Where so many Engineers are heads of corporations employing enginemen, it

(Continued on Page 11)

ENGINEERS AND THEIR CRITICS

A Definition By One Of Them

ACCORDING to the press reports of an address recently delivered before Columbia University Summer School by William C. Dickerman, President of the American Locomotive Works, "An engineer is a man who knows a great deal about very little, and goes along knowing more and more about less and less, until finally he knows everything about nothing." In elaborating he states, the engineer is narrow and that whether he be President of the United States or some backwoods mechanic he develops a single track mind devoid of knowledge of the humanities and incapable of handling, without great difficulty, the intangible.

These are indeed strong accusations and the engineer wonders what he has done to arouse the ire of his omniscient critic. Can it be that the latter considers an attack the best defense of the evident incapacity of certain non-engineering executives? One must admit that the whole tirade has somewhat the form of a tu quoque argument supported by recriminations, all minus proof of anything. The net result is a plethora of words indicating a process of thought that might readily be considered as qualifying the critic for the select company to which he would consign the object of his animadversion.

This proscription of the professional engineer, however convincing, and perhaps consoling, to the financial and industrial wizards, soothsayers, clairvoyants and prophets whom Mr. Dickerman apparently would acclaim whilst their theories and principles are crumbling about them, is after all an intangible individual opinion so far as the "narrow engineer" is concerned.

The mind that successfully employs the forces of nature, that predicts to seconds the advent of an eclipse or that fulfills to the minutest detail the promise of a bridge, a water supply, a wireless communicating apparatus or a trans-oceanic aircraft, can scarcely be expected to despair because of arraignment by those who, like the Delphic Oracle, prophesy about prosperity and corners, invisible not alone to others but to the prophets themselves. Even Don Quixote must yield the palm to the judgment of the modern proprietor of intangible knowledge.

To begin with, the attempt at a novel description of the engineer is devoid of any originality insomuch as it has long since been applied to the many trackminded individual who modestly terms himself an efficiency expert, whatever that may be, and with whom the true engineer disclaims not alone relationship but even association.

The implication that the President of the United States and the backwoods mechanic represent the extreme of engineering accomplishment is, after all, but another evidence of the nescience of the critic. Whatever may be said of the present incumbent of the Presidency, no man can honestly contend that his policies or reasoning processes have been those of an engineer. Unhappily for the times one is compelled to see in his every action the financier of the passing order rather than the engineer of the approaching one. As to the backwoods mechanic, respected and useful member of society though he be, he is no more an engineer than a house painter is an artist.

Whilst considering the elimination of the engineer on the ground of possessing a single track mind, it might be well to remember that instances of the failure of the engineer to accomplish his purpose are few and far between. Judging from results, which cannot be changed by excuses and extenuations, or even by commenting upon the shortcomings of others, the engineer might, with justifiable propriety, suggest that the present possessors of administrative or executive authority have for some time past indicated, either a deficiency or a disorganized superfluity, of track mindedness.

The engineering mind, appreciating the necessity for a plan, possessed of the imagination to envision the end toward which it works and by virtue of insistence upon proving assumptions before proceeding, is more conversant with the application of at least one of the so-called humanities, viz., logic, than that of those who seem to forget that the conclusion of any undertaking or argument must be contained in the premises upon which it is predicated.

The engineer reasons only upon proven premises. His history is a succession of demonstrations and proofs of his ability to reason clearly as well as to envision results. Any assumption he makes remains an hypothesis until conclusively and unqualifiedly demonstrated. If he has succeeded so well in the world in which he labors it is because opinions are not facts until they meet tests that are indisputable and which he, better than any other save the true scientist, knows how to apply. It is for such that he is termed narrow and condemned by those who, invoking philosophy, manifest an absolute lack of familiarity with its fundamental principles.

The single track mind of the engineer has invariably led to its objective. Perhaps a little of the reasoning that enables him to remain on a track from premises to conclusion might prove very useful at this moment, when self-acknowledged proprietors of multi-track minds succeed only in derailing the constructive endeavors of those who actually produce the necessities and comforts of life.

The past century has witnessed world domination upon the part of financiers. During this period civilization has undergone greater changes than can be accounted for throughout the preceding two thousand years. Who is responsible for this changed form of existence? The financier who is the result of this civilization or the scientist and engineer who are the cause of it? There can be no refutation of the statement that science and engineering have brought about modern civilized

(Continued on Page 12)

RECLASSIFICATION OF STATE SERVICE

A Review By Albany Chapter

THE report of the "Joint Legislative Committee on Classification of Positions in the Civil Service" was considered by the Society at its last Winter Meeting. A resolution disapproving certain features was adopted at the time. Subsequently the wisdom of such action was questioned from one or two sources.

That the action of the Society was justified is borne out by the investigation of Albany Chapter, whose report is one of the most carefully drawn and thorough analyses that has yet been presented to the Society upon any subject. The committee which reviewed the Reclassification Schedule was composed of prominent engineers conversant both with the workings of the profession and the best interests of the public service. One cannot but feel that the State would have benefited far more had it been possessed of the services of this committee rather than those of the firm of so-called experts, for the preparation of the entire reclassification of schedules.

The analysis, which covers every position wherein the term engineer, or engineering services under any other term, is concerned, contains about twenty pages of typewritten matter. Lack of space prevents printing the entire report, much of which follows:

The Report of the Joint Legislative Committee on Classification of Positions in the Civil Service is unquestionably a step in the right direction. It has been well and carefully compiled and represents the diligent, conscientious effort of a large number of the State's servants as well as those experts engaged for the purpose. Able hands have guided these efforts, courageously and unstintingly, and the completed report sets up a classification list that, in general, has much to recommend it.

It is inevitable, however, that such a document should contain some errors and do some injustice. The State Society of Professional Engineers, while fully recognizing and endorsing the value of the report in general, desires to point out that certain corrections should be made to properly safeguard the best interests of the State's Service, and the rights of the 10,000 Professional Engineers of this Commonwealth.

Engineering positions have been so entitled as to indicate that there are a baffling large variety of engineers. One position whose title indicates the employment of a professional engineer contains minimum requirements eliminating engineers. Other engineering titles include in their minimum requirements graduation as an engineer from an approved college and the usual state license to practice engineering, but then amend the requirements to permit an entirely different background, a technical high school course plus two years testing and repairing meters, in lieu of the engineering degree and license. Other qualifications mention graduation in "structural" engineering as a requirement for certain positions, not realizing that structural work is simply a part of every engineering course and not the course itself.

It has also seemed to the Society that much improvement might be accomplished by a minor shift in the titles themselves. Certainly much printer's ink could be saved in the annual budget by formulating these titles so that in the budget they could be grouped under their proper bracket or class, as has been done by the Public Service Department in their 1932 budget.

The Society's objections to fourteen specific positions are pointed out on the following pages; following this is a tabulation showing the Engineering titles proposed in the committee's report and opposite each title the form in which the Society recommends that it appear. The Society's recommendations with respect to State employees engaged in power plant operation concludes this subject.

See Report Page

123 "Assistant Architectural Estimator."
200 "Associate Architectural Estimator."
607 "Senior Architectural Estimator."

These positions are restricted by minimum qualifications to licensed Architects. They should be open also to licensed Professional Engineers, inasmuch as the technically trained building estimators of the country are, in fact, composed 90% of engineers and 10% or less of architects. It is the general practice of contracting firms of any size to have engineers do their estimating and it is presumed that these men are the type which would be valuable to the State Service and eligible for these positions. In the construction field the positions of Engineer of Building Construction, Contract Engineer, and other positions, have been opened to Architects as well as to Engineers. Reciprocal treatment should hold in the case of these positions, otherwise the State will fail to secure the best service available for the position.

See Report Page

476 "Junior Electric Service Engineer."
157 "Assistant Electric Service Engineer."

The minimum qualifications are conflicting and detrimental to the State Service. Here we require technical, engineering service. We state the candidate must be a graduate electrical engineer with a state license to practice, and then go on to say that if he has no such qualifications, we will rate him as an engineer provided he has had a technical high school education and has performed a certain amount of meter testing and repairing. The technical high school plus the meter repairing will not make any man an engineer. Either an engineer is or is not needed for the position. If he is needed, ensure obtaining one by the proper minimum requirement. If the occupant need not be an engineer, change the title of the position.

165 "Assistant Industrial Safety Engineer."

This man must be a graduate mechanical engi-

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GOLD AND INTERNATIONAL ECONOMICS

By L. Leitner

IN this international economic turmoil we find ourselves much in the same condition as Odysseus in the cave of Polyphemos. Shall he look on as the insatiable appetite of the giant devours one after the other of his companions in the hope that his turn will be the last; or shall he plan to escape? Shall we wait and let things take their course, or shall we realize that economics are after all man-made and can be planned by reason?

The vast proportions and speed of our economic life show us clearly the fallacies of former economic schools. Even the soundest of them, that of the free-traders, did not stand the test of the present era. But in spite of this, our economic life seems to be pervaded with the antiquated and wrong ideas of the mercantilists and of laissez faire.

We recognize that the concentration of gold in a few countries is an unhealthy condition. To remedy this we propose bi-mettalism, or another kind of double standard, one (the gold) intended for foreign trade, the other(paper, for example) for internal trade. Are we not treading on dangerous ground? Are we not courting mercantilism in disguised form? Are we not attributing paramount value to gold and silver?

A safety valve is attached to the steam-boiler to call to the fireman's attention an excessive pressure. What would we think of a fireman who, on hearing the danger-signal given by the valve would go and set the valve for a higher pressure? Evidently such a fireman does not know his business. But is not the gold standard this safety-valve, this indicator, on the boiler called Economics? Does not the concentration of gold in one or two countries indicate that international economics, trade relations, have reached an unhealthy stage? Evidently bi-metallism cannot cure that evil. The silver will follow the beaten path of gold and we shall be more perplexed than before.

We should also keep in mind that gold no longer commands that royal position that it did before. Gold, for obvious reasons, was one of the first metals used as a money standard. But to-day, when values are produced at an immense rate, gold is only a small fraction of these values. Already some prominent men have proposed to do away with the gold-standard altogether and harmonize international trade by bookkeeping, so to speak. Probably, our civilization is not far enough advanced for that as yet.

It has been said that poets see into the future, and it might be appropriate to mention here Madach, a prominent Hungarian poet. In his "The Tragedy of Man," a work depicting man's struggle throughout the ages, he describes the future organization of the state. Adam and Mephisto are led around in a museum of this state and are shown the relics of bygone civilizations. They pass a case containing a shining yellow metal. 'Here,' their leader explains to them, 'is a metal which for some reason or other was highly valued at one time. Its name is gold. It is quite useless. It is said that once you could buy anything with it, even bread.' It would be sad if our civilization should ever come to the stage described in that scene, but the poet's evaluation of gold is not an impossible one.

The trend in national economics.—I have intentionally used the word "national," since the present trend in economics is national self-sufficiency. The free-traders' principle is that each country should produce that which it is best suited for; the over-all efficiency of the world would be much enhanced that way. While that is perfectly true, we must at the same time admit that our present troubles do not come from lack of production. And, let this be said in praise, man is not motivated only by economic questions. There are national traditions, and there is culture, the backbone of national life. We do not want to risk these things for the sake of a greater world-wide economic efficiency. Is it not natural, then, that each nation should try to make itself economically independent so as to pursue its national life unhampered by the whims of its neighbors?

The two most conspicuous examples of this policy of national self-sufficiency are those of communism in Russia, and fascism in Italy. Fascism, it must be borne in mind, is also a new school of economics, but, very properly, makes economics only a means to a higher end.

Do international economic relations really pay? When an undeveloped country makes a loan in another one, which is a capital-exporting country and consequently industrially developed, this loan is ordinarily used for buying industrial products. It seems, therefore, advantageous, at least for a considerable length of time, for an industrial country to help an undeveloped one. But how about loans between industrial states and the flotation of bonds of one state in another? The borrower theoretically has to pay back more than he borrows: the capital plus the interest. Where will he get the interest? It must come from his trade balance. In other words, the borrower has to expand at the expense of the lender, the money lent becomes the proverbial boomerang. What happens if the borrower is not able to expand and pay back the loan? The borrowing country will stop the payments, accompanying the same with all the pomp and circumstance of diplomatic language. The lender again becomes the loser, and international trade relations get out of gear. Our present condition furnishes the best example. How shall Germany expect to pay the former Entente, and the Entente in turn, the United States? Obviously only with the profits made in trade between each other. And that, of course, is made as hard as possible by building up tariff walls.

I believe we would be more successful and more just in evaluating international economic relations if we adhered more to the fundamentals of econ-

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THE LICENSE LAW SINCE 1920

By Roy G. Finch, Secretary—Engineers' Board of Examiners

(Continued from Previous Issue)

Vacancies: However created, may be filled by appointment by the regents for the unexpired term. Section 1451.	**Vacancies:** No change. Section 1451.	**Vacancies:** No change. Section 1451.
Compensation and Expenses: Each member of the board shall receive a compensation determined by the department for attending sessions of the board or of its committees, and for the time spent in necessary travel, and, in addition, shall be reimbursed for all necessary traveling, incidental and clerical expenses incurred in carrying out the povisions of this law. Section 1452.	**Compensation and Expenses:** No change. Section 1452.	**Compensation and Expenses:** Each member of the board shall receive a compensation to be determined by the regents for the time spent in the performance of his official duties and in necessary travel, and shall be reimbursed for all proper traveling and incidental expenses incurred in carrying out the provisions of this law. Section 1451.
Organization: Shall elect annually a chairman, a vice-chairman and a secretary from its membership. Section 1454.	**Organization:** No change. Section 1454.	**Organization:** No change. Section 1451.
Shall hold at least 2 regular meetings each calendar year. Section 1454.	No change. Section 1454.	Shall hold such meetings during the year as it may determine to be necessary, 1 of which shall be the annual meeting. Section 1451.
Shall hold special meetings at such times as the by-laws of the board may provide. Section 1454.	No change. Section 1454.	No provision.
Notice of all meetings shall be given in such manner as the by-laws may provide. Section 1454.	No change. Section 1454.	No provision.
A quorum of the board shall consist of not less than 3 members. Section 1454.	No change. Section 1454.	No change. Section 1451.
The secretary of the board shall receive and account for all moneys derived from the operation of this law and shall pay them to the department. Section 1455.	No change. Section 1455.	All fees, fines and penalties derived from the operation of this law shall be paid to the department. Section 1460.
Records and Reports: The board shall keep: (1) A record of its proceedings; (2) A register of all applicants for license showing for each, the date of application, name, age, education and other qualifications, place of business and place of residence, whether or not an examination was required and whether the applicant was rejected, or a certificate of license granted, and the date of such action. The books and register of the board shall be prima facie evidence of all matters recorded therein. Section 1456.	**Records and Reports:** No change. Section 1456.	**Records and Reports:** No provision.
Oath of Office: Each member of the board shall file in the department of state the constitutional oath of office, before beginning his term of office. Section 1453.	**Oath of Office:** No change. Section 1453.	**Oath of Office:** No change. Section 1451.
Certificate of Appointment: Each member shall receive a certificate of appointment from the department. Section 1453.	**Certificate of Appointment.** No change. Section 1453.	**Certificate of Appointment:** No provision.
Powers: (1) To compel the attendance of witnesses;	**Powers:** No change. Section 1453.	**Powers:** No change. Section 1451.
(2) May administer oaths and take testimony and proofs concerning all matters within its jurisdiction;	No change. Section 1453.	No change. Section 1451.

(3) To make all by-laws and rules not inconsistent with law needed in performing its duty. Section 1453.	No change. Section 1453.	Subject to the approval of the regents, to make such rules, not inconsistent with laws, as may be necessary in the performance of its duties. Section 1451.
Official Seal of the Board: Shall adopt and have an official seal which shall be affixed to all certificates of license granted. Section 1453.	**Official Seal of the Board:** No change. Section 1453.	**Official Seal of the Board:** Shall adopt and have an official seal which shall be affixed to all licenses granted under the provisions of this law. Section 1451.
Judicial Duties: (1) Hear all charges preferred against persons holding licenses;	**Judicial Duties:** No change. Section 1460.	**Judicial Duties:** No change. Section 1454.
(2) If charges are not dismissed as unfounded or trivial, to hold hearings and make determinations within 3 months after the date on which charges are preferred;	No change. Section 1460.	Slight change in wording, but no change in provision. Section 1454.
(3) To fix a time and place for hearings;	No change. Section 1460.	No change. Section 1454.
(4) Shall recommend to the department the revocation of the certificate of license of the accused if, after a hearing, 3 or more members vote in favor of finding the accused guilty of any fraud or deceit in obtaining a certificate or of gross negligence, incompetency or misconduct in practice. Section 1460.	No change. Section 1460.	Shall recommend to the department the revocation of the license of the accused if, after a hearing, a majority of the members of the board vote in favor of finding the accused guilty of the charge. Section 1454.
	Exemptions from the provisions of the law.	
(1) Offering to practice in this state as a P. E. or L. S. by any person not a resident of and who has no established place of business in this state. Section 1463.	No change. Section 1463.	No change. Section 1457.
(2) Practice as P. E. or L. S. in this state by any person not a resident of and having no established place of business in this state, for not more than 30 days in any calendar year, provided that said person is legally qualified for such professional service in his own state or county. Section 1463.	No change. Section 1463.	No change. Section 1457.
(3) Practice as a P. E. or L. S. in this state by a person not a resident of and having no established place of business in this state, or any person resident in this state, but whose arrival in the state is recent; provided, however, such a person shall have filed an application for license as a P. E. or L. S. and shall have paid the prescribed fee. This exemption shall continue for only such reasonable time as the board requires in which to pass upon the applicant. Section 1463.	No change. Section 1463.	No change. Section 1457.
(4) Engaging in P. E. or L. S. as an employee or pupil or under the direction of a P. E. or L. S., which does not involve responsible charge of design or supervision as principal. Section 1463.	No change. Section 1463.	No change. Section 1457.
(5) Practice of P. E. and L. S. solely as an officer or employee of the U. S. Section 1463.	No change. Section 1463.	No provision.
(6) Practice of P. E. or L. S. solely as an employee of the state or any political subdivision thereof, on May 14, 1920, and thereafter only until the expiration of the then existing term of office of such employee. Section 1463.	No change. Section 1463.	No change. Section 1457.

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GENERAL NEWS

MINNESOTA ACT AMENDMENT

Model Law Used As Basis

The Minnesota Board of Registration for Architects, Engineers and Land Surveyors proposes to amend the existing law and has prepared a revised act conforming generally with the suggested Uniform Registration Law set up by a committee representing various engineering groups throughout the country.

A review of the proposed amendment, which, in fact, is an entirely new act, suggests publishing several sections. President Steinman and others whose opinions concerning the proposals have been sought, have, subject to certain modifications, approved generally the form of the amended law from which the following is quoted:

DEFINITIONS: The practice of Professional Engineering, within the meaning of this Act, includes advising upon, investigating, evaluating, designing, planning, and supervising construction or operation of any engineering project or works wherein life, health, safety, property or public welfare are concerned or involved, such as utilities, structures or any combination of structural elements, machines, equipment or processes which require in their design, construction or operation, the application of the principles of mathematics, the physical and mechanical sciences and aesthetic arts as applied to strength, safety, durability, dependability, adequacy, efficiency, appropriateness or economy.

APPOINTMENT OF BOARD: To carry out the provisions of this Act there is hereby created a State Board

.....

Appointment of Engineer and Land Surveyor members shall be from among nominees recommended by representative Engineering Societies of the State.

COMMENT:—This is a step in the direction of placing the profession in control of its own affairs.

RECEIPTS AND DISBURSEMENTS: The treasurer of the Board shall receive and account for all moneys derived under the provisions of this Act, and shall deposit them with the State Treasurer, who shall keep such moneys in a separate account to be known as the "Architects, Engineers and Land Surveyors Registration Fund." Such fund shall be kept separate and apart from all other moneys in the Treasury and shall be paid out only by warrant of the State Auditor on the State Treasurer upon itemized vouchers approved by the Chairman and attested by the Secretary or an authorized officer of the Board. All moneys in the "Architects, Engineers and Land Surveyors Registration Fund" are hereby specifically appropriated for the use of the Board. The State (Treasurer) (Auditor) shall credit to said "Architects, Engineers and Land Suryevors Registration Fund" monthly from the (general) (proper) fund interest upon daily balances at the rate received from depositaries upon state funds, said credit to be retroactive to the establishment of said "Architects, Engineers and Land Suryevors Registration Fund.'

COMMENT:—This very desirable proposal, which should be modified sufficiently to permit the appropriation of funds in case those collected proved insufficient, is hardly possible in New York where all funds are turned over to the State Treasury for general allotment.

EXEMPTIONS: (e) A person who practices the professions of architecture, engineering or land surveying exclusively as a regular employee of a public service company by rendering to such company architectural, engineering, or land surveying service in connection with its facilities which are subject to regulation, supervisions, and control by any Commission of the State of Minnesota, so long as such person is thus actually and exclusively employed and no longer; provided, that such Company shall have at least one architect, engineer, or land surveyor registered under the provisions of this Act, in responsible charge of such Company's work in this state.

COMMENT:—Paragraph (e) weakens the law and has no justification. Lawyers and Doctors do not have any such exemptions. True, engineering laws in some states have similar provisions but the same were compelled by corporate influences and are inimical to the welfare of community and profession. No man who is primarily interested in the public welfare and the good of the profession would approve of this emasculatory paragraph. It should be kept out of the law if possible as it constitutes a challenge to the authority of the state and to a large extent nullifies the law.

It is to be hoped that Minnesota may eliminate this exemption.

* * *

REGISTRATION OF LICENSING

Also—Should Corporations Practice

Two questions of interest to engineers generally have received considerable attention at the hands of those sponsoring the Amended Minnesota Practice Act.

The propriety of corporations practicing a profession and the preference for registration as against licensing present problems that the profession has to give thought to, and some opinions thereon are set forth for the information of engineers generally.

From Letter of James M. White, Chairman of Committee on Registration Laws, Dated March 30, 1932, to Mr. J. T. C. Lowe, Institute Counsel, and Mr. Lowe's replies in letter dated April 19, 1932.

Mr. White: The question of the legality of licensing corporations to practice a profession is, I presume, determined by the laws of each state, but to your Committee on Registration Laws it seems that corporations should not be registered to practice a profession.

Mr. Lowe: Mr. White's letter, page 2, second paragraph. Each state determines for itself the advisability of licensing corporations to practice any profession.

* * *

Mr. White: In revising the rules and regulations of our Illinois Architectural Examining Committee, we are proposing to publish the following explanatory clause, because we have so many inquiries as to why corporations may not practice in this state:

"One reason for the provision in Section 3 of the Act, which bars the registration of corporations, is that corporations have a legal existence apart from their membership and can perform acts for which their members are not personally liable; furthermore, the professional service rendered by an architect, like the service performed by a physician and by a lawyer, is a personal service which liabl corporations, being impersonal, are actually and theoretically, incapable of rendering." I wish Mr. Lowe might give us an opinion as to whether or not this explanatory paragraph is sound reasoning.

Mr. Lowe: Mr. White's letter, page 2, paragraph 4-5. This explanatory paragraph seems to us satisfactory, although we would suggest that at the end it read "incapable of rendering, except by its officers or employees who assume no personal liability for their acts done in good faith on behalf of their corporate employer," or some such language to express the manner in which corporate services are rendered to clients.

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LAWYERS AND ENGINEERS

As They Understand Logarithms

The Military Engineer for August contains the following anecdote which is subtle enough to suggest reprinting:—

OUCH! !

He was a very able lawyer, but lacked one factor of true greatness: he thought he was more able than he really was.

In a case in court his opponent had benefited by the testimony of a civil engineer.

The able lawyer began his cross-examination.

"You say you made those calculations by means of tables!" he began. "You couldn't do the calculations without help of the tables, could you?"

"I could—but it would have taken longer."

"Oh, you could! It was just to save time, not because you don't know enough, that you used the logarithms, eh?"

"Yes."

"Well, suppose you show us. Let's see you calculate a table of logarithms."

"But—"

"No buts! If you know how, do it. If you are frankly dependent upon

some other engineer's work, and couldn't have made these calculations unaided, tell us."

The engineer bit his lip, took pencil and paper and began to work.

After five minutes of silence the lawyer said "Nearly through? Takes you some time, doesn't it?"

The engineer didn't answer.

Five minutes more. Then—"How long are you going to take to show us that you know how to do that?" demanded the lawyer.

The engineer did not crack a smile. "If I work eight hours a day for thirty-five years I may be able to duplicate the ordinary book of logarithms," he said quietly.

The judge didn't smile either—outwardly.

"I'm afraid we can't afford to waste so much of the court's time," he said gently.

"I was afraid I couldn't waste so much of my employer's time," the engineer stater. "That's why I used tables instead of making my own calculations."

"No further questions!" snapped the lawyer.

* * *

PRESIDENT STEINMAN —AUTHOR

Treatise on Wichert Truss

The American Engineer has received a copy of another work from the pen of President Steinman of the New York State Society. It is entitled "The Wichert Truss" and the publisher is D. Van Nostrand Company, Inc., of 250 Fourth Avenue, New York.

The Wichert Truss, the invention of E. M. Wichert of Pittsburgh, is essentially a continuous truss wherein the determination of stresses is greatly simplified by means of a unique arrangement of members and the formation of a hinged quadrilateral at intermediate bents.

The author states that "the purpose of the book is to acquaint engineers and engineering students with the features and methods of analysis of the Wichert Truss."

One frequently reads of the dynamic energy of certain men prominent in the world of commerce, of industry or of banking. Such having acquired enormous fortunes are held up as examples of super-men because of their ceaseless labors and seemingly tireless minds and bodies.

The press may not comment upon, and the world at large may not be aware of, the accomplishments of D. B. Steinman, but to those who are familiar with his career he is the embodyment of skill and energy. At one time an outstanding practitioner of one of the most difficult and imaginative phases of engineering, a presiding officer in a half dozen national, state and local professional organizations and communities, an active officer and director of at least a dozen other professional, industrial and civic organization, a lecturer in various fields, the compiler of examinations, the examiner of prospective engineers and the author of many publications he is a most devoted family man and finds relaxation in solving mathematical, physical and chemical problems for the junior members of his household.

In addition to his latest publication the recognized works and texts on Bridges, of which Dr. Steinman is the author, include:

Suspension Bridges and Cantilevers —Published by D. Van Nostrand Co.

Suspension Bridges: Their Design, Construction and Erection—Published by John Wiley & Sons.

Concrete Arches, Plain and Reinforced—Published by John Wiley & Sons, Inc.

Theory of Arches and Suspension Bridges—Published by McGraw-Hill Book Co., Inc.

Continuous Bridges—Published by McGraw-Hill Book Co., Inc.

Suspension Bridges—Published by McGraw-Hill Book Co., Inc.

Locomotive Loadings for Railway Bridges—Published by American Society of Civil Engineers.

Stress Measurements on the Hell Gate Arch Bridge—Published by American Society of Civil Engineers.

The Eye-Bar Cable Suspension Bridge at Florianopolis—Published by American Society of Civil Engineers.

* * *

THE BEST RESEARCH BET

By John M. Weiss

An interesting reprint from Chemical Markets of July, 1932, has been received from the author. The necessity for the engineer in the promotion of enterprise and his value as an economist are evidenced by the studies and arguments set forth in this treatise on Research.

* * *

A TRANSCONTINENTAL HIGHWAY

Super-Express Artery Needed

The following news item, issued in the form of a bulletin, has been received by the Society:

SUPER-EXPRESS TRANSCONTINENTAL HIGHWAY

The American Institute of Steel Construction is advised that there is an adequate demand and ample resources available to build an express transcontinental highway, and thereby contribute greatly to the economic recovery of the United States. Such a highway has been repeatedly discussed during several years past and proposals are today pending before Congress for its construction.

The late Senator Dupont of Delaware introduced a bill that received favorable consideration. Others have since been introduced. Most of the plans call for Federal financing, but this involved state politics that resulted in complications. It is manifest that such a highway, if properly planned as an express road with all grade crossings eliminated, must be located without regard to political expediency, but according to economic need.

To spend money merely to be spending it may never be economically sound and during the period of a business depression there are more arguments against such expenditures than during times of plenty. But we recognize the necessity of spending wisely if we are to get the country out of the depression. There are expenditures which today represent wise economy because they are made upon projects that promise to stimulate business in many related lines and to encourage the starting of entirely new enterprises. Such projects are truly self-liquidating, for they not only offer a means of earning a sufficient return to repay their original cost, but they promise to stimulate new sources of business activity and revenue.

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Protection of the Term "Engineer"

(Continued from Page 4)

should be comparatively easy to establish the latter as the accepted designation.

Our quarrel, however, is not with "operating engineers." If a man calls himself a "Locomotive Engineer," a "Stationary Engineer," or a "Hoisting Engineer," his status is clear; the public knows him to be an engineman and will not mistake him for a member of the Engineering Profession. If the "Locomotive Engineers" insist on claiming a vested right to use the designation "Engineer," we would not attempt to dispossess them by statute. Until education, publicity, and persuasion can prevail to establish the appropriate term "Engineman" in more general usage, we are prepared reluctantly to recognize the quality of application of the term "Engineer." If necessary, we are prepared to write into our statute an exemption permitting such designations as "Locomotive Engineer," "Marine Engineer," "Stationary Engineer," or "Hoisting Engineer," when applied solely to engine operators. These designations, under such conditions, do not have professional connotation and are not intended to mislead the public.

But the necessity for this compromise should not be an argument for abandoning our major program. We may have to share the designation "Engineer" for the present with engine operators, who have a certain legitimate claim to the title, but that is no reason why everybody else should be permitted to adopt, at will, such designations as "Consulting Engineer," "Chemical Engineer," or "Structural Engineer." Nor is it any reason why our professional title should be degraded by such unwarranted appellations as "Plumbing Engineer," "Lawnmower Engineer," "Custodian Engineer," "Fence Engineer," or "Exterminating Engineer." These have no valid claim to the designation "Engineer."

Except for engine operators using their clearly understood, time-established appellations, no one should be permitted to use the title "Engineer" unless he is a registered professional engineer. Any other use of the designation may be regarded as an attempt to convey the impression of professional qualification and should be so construed.

Another difficulty arises in the matter of engineering degrees and the question of the right to use them com-

mercially before qualifying for professional licensure. This question received an answer in the recent New York court decision, where the man convicted of using "Civil Engineer" on his letterhead pleaded in defense that he was the holder of a C. E. degree; the court ruled, however, that a degree was no excuse for unlicensed use of the professional designation, and declared that the sanction of such use of degrees would only create confusion in the administration of professional practice laws.

If deemed desirable, an exemption can be written in the statute permitting the display of degrees when clearly indicated as such, that is, in the form of the accepted initial abbreviations. There is however no practice necessity for such exemption, and it may only encourage circumvention of the law. Other professions have not found such exemption necessary.

Engineers' registration laws contain injunctions against unlicensed persons "holding themselves out" to be professional engineers, or "offering to practice" professinoal engineering. These clauses can, in many cases, be made the basis for stopping the unauthorized use of our professional designation. A man who advertises as a "Consulting Engineer" or as an "Electrical Engineer" is offering to practice professional engineering, and a man who displays "Civil Engineer" or "Mechanical Engineer" or "Radio Engineer" on his sign is holding himself out as a professional engineer. The enforcement authorities and the courts, if they understand the issue, will support such application of the intent of the law.

For the full accomplishment of our objective, however, the statutes should contain (as they already do in several States) more explicit provisions declaring it unlawful for unlicensed persons to use the designation "Engineer" with or without qualifying adjectives. (Such exemptions as are found necessary for expediency may be included.)

After the desired statutes or amendments have been enacted, they should be tried and tested for scope of effectiveness. Official rulings (by the Attorney General) or court decisions should be secured to ascertain whether the statute prohibits the unauthorized use of:

1. Such established professional designations as "Consulting Engineer," "Electrical Engineer," "Mechanical Engineer," "Structural Engineer," etc.

2. Such less established professional designations as "Heating Engineer," "Radio Engineer," "Architectural Engineer," "Valuation Engineer," "Refrigerating Engineer," "Illuminating Engineer," "Industrial Engineer," "Automotive Engineer," etc.

3. Such pseudo-professional designations as "Domestic Engineer," "Social Engineer," "Amusement Engineer," "Economic Engineer," "Sales Engineer," etc.

4. Such hybrid designations as "Plumbing Engineer," "Fumigating Engineer," "Trucking Engineer," Decorating Engineer," "Custodian Engineer," "Lawnmower Engineer," etc.

5. Such clearly non-professional designations (long-established designations of engine operators) as "Locomotive Engineer," "Stationary Engineer," or "Hoisting Engineer."

The first four of the foregoing classifications should certainly be covered by an adequate restrictive statute. If it is found that the effectiveness of the statute does not reach far enough down this list, the best legal advice should be secured in framing the further amendment of the restrictive clauses in the law.

The enactment of the desired legislation is only a part of the campaign. It must be supplemented by *a comprehensive program of public education.* The salient features of such program will be outlined in the next article of this series.

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Engineers and Their Critics

(Continued from Page 5)

existence. Platitudinous arguments to the contrary cannot change facts, nor convert effects into causes.

Society to-day is a highly integrated, mechanized, communal collection of human beings. That it is the best form of existence no one contends. It is unquestionably too material to be so. However, the facts remain that mankind has not changed inherently. The advances in knowledge of the physical universe and the resultant material developments have not been accompanied by pronounced moral or ethical advances. Unfortunately for the welfare of humanity, the realm of spiritual knowledge has not been appreciably expanded since the advent of the Christian Era. Statements to the contrary are merely opinions and cannot be demonstrated. The greatest need of mankind is the light to appreciate that civilization has changed but that human nature has not. Let those who would question this reflect on the statement that "concerning the whence and why of our existence, the when and where of our departure, the essence and nature of the soul, the philosophy of life, or the regulation and control of our passions we are no farther advanced nor better informed than were the great thinkers of 2000 years ago."

With regard to knowledge of, or ability to direct, the intangible, one is safe in asserting that the intangibles of human existence are not, and never have been, the exclusive province of any particular class of mankind, and are no better understood today than in Caesar's time. The sophistry of most of the modern isms and ologies to the contrary nothwithstanding.

There are many intangible things which effect the welfare of humanity but such are not predicated upon demonstrable laws or rules. This at least the engineer appreciates, whereas his critics seemingly do not. If there be immutable laws by which the so-called humanities of life can be demonstrated or directed no man has as yet discovered them and all the rhetoric in the world cannot create them nor bring about effects whose causes are not definable. When the effect becomes equal in all respects to its cause, when the creature understands the Creator and when the spiritual can be measured by the physical, then, and then only, will that which is unique in every human being, viz., his subjective nature, be understood and directed by laws known to man.

This the engineer is as capable of appreciating as any other. The fact that he has been absorbed in his search for knowledge and in his development of material things useful to society, whilst his present day critics have been utilizing his accomplishments for the exploitation of mankind, does in no sense disqualify him for the role of a director of the civilization for which he is so largely responsible.

The statement that "the talk about the trained engineer making a successful executive is just a lot of propaganda" sounds like the wail of a passing order that, recognizing the inevitable approach of an epoch wherein the man Who Can Do Things will be far more important in the social scheme than the man WHO OWNS THINGS, is resorting to the very tactics it condemns, in order to save itself.

The untenable theories and doctrines of financiers, economists and industrialists, of the various schools of the 19th century, have proven inadequate for the civilization created by the engineer. It would be amusing, were it not tragic, to give ear to the incoherent extenuations of those who unfamiliar with the causes contributing to the present form of Society seek refuge in discourse on intangibles and condemnation of the creator of a civilization because they are incapable of administering it. Like the driver of an automobile who seeks to climb a tree and meets with disaster they would have the world believe that the maker and not the operator is at fault.

The single minded Stevenson created the locomotive; he therefore is responsible for the financial failure of railroads. The single minded Marconi created the wireless; he therefore must be held accountable for the commercial vicissitudes of Radio Corporations. Bessemer is responsible for a steel process; he therefore must answer for the conduct of the Krupp works. The position of the critic who summarily decides that the engineer, who is responsible for the water supply, sanitation, transportation, communication, irrigation, navigation, light, heat, power and structural requirements of urban existence and without whom modern society could not endure for twenty-four hours, is incapable of executing the needs of a civilization developed upon his creations can only be compared to the dilemma of the fox who, having lost his tail, would have all tails condemned.

The undeniable fact is that this machinery called Society is in need of repair and that no one is more capable of restoring the machine to usefulness than its creator.

For several years the nation has listened to pronouncements delivered in ipse dixit fashion, to prophecies and to predictions to rhetoric and to expostulation, and the sum total amounts to words, mere words.

Few engineers have entered the business or political spheres of life, but so far as the conduct of business or business projects is concerned,

there is no reason to believe that engineers such as Schwab, Rea, Goethals or Stone suffer by comparison with other average big business administrators. Nor will an Edison, a Steinmetz, a Pupin, a De Lesseps, a Cooper or a Roebling occupy an unknown grave when the big Butter and Egg Men of their time have crossed the Bar.

After all is said there remains a fundamental difference of opinion as to what the measure of executive capacity is. To some, especially the financier and industrialist, it means success in directing into a minimum number of hands the control of the world's wealth. Such an executive is in the final analysis merely a collector and not a creator. Executives and administrators who have changed or directed the course of human events were not of such calibre. Mussolini will be a name to conjure with when the wealthiest of the present age are forgotten.

History records one Sir Thomas Lucy, because Shakespeare wrote a poem about having been arrested by him for poaching; biographies chronicle an account of a Scotch factor because he dispossessed the family of Bobby Burns for inability to pay its rent. Perhaps posterity!— But who is so familiar with the intangible as to safely predict what the future may have in store for gratuitous counsellors and self-admitted executives. Surley not the engineer.

INGENIEUR

* * *

Gold and International Economics

(Continued from Page 7)

omics than the technicalities of finance. If one friendly nation borrows from another, say a thousand locomotives, it can expect back a thousand locomotives; or it can agree on some product, the equivalent of a thousand locomotives. Why should it insist on gold, worth a thousand locomotives? If it insists on gold, the debtor nation will probably not be able to borrow any more, and the locomotive industry will suffer. Under normal conditions the creditor will not insist on gold, but will open the gates of commerce for the free flow of goods. Under abnormal conditions, tariff walls will be drawn, there will be loud demands for the payment of debts, the creditor nation's industries will suffer, and the nation will be drawn gradually into a vortex of depression.

Even in normal conditions, we must admit, this economic balance is always in a rather precarious position. It is a delicate astronomical clock which requires expert handling. It would call for an absolutely impartial dictator, the sort of king that Lycurgus prescribed for his ideal state.

How much simpler would it be if the leading nations were made economically self-sufficient. There would not be that constant borrowing from one another; there would be no debts to be paid back, there would be no transportation of capital and of industries from one country to another. The countries would protect themselves from the influx of foreign capital, that is, if they planned wisely. It is needless to say, there would be less friction and fewer wars. Individual nations would be in the position to handle and plan their own affairs as it suited them best. Capital would play a less prominent role than it does today; money would again be reduced to its secondary position; a means for exchanging goods. Aristotle's saying might yet realize: "It is not the property of money to beget young ones."

* * *

Reclassification of State Service

(Continued from Page 6)

neer but the qualifications fail to include the state license to practice engineering required by the law and included in the minimum qualifications of all other engineering positions. This is believed to be an unintentional omission on the part of the committee. We recommend the license requirement be inserted.

See Report Page

177 "Assistant Plumbing Engineer."
225 "Associate Plumbing Engineer."

The term "Engineer" is incorrectly used. Certain plumbers, in recent years, have been stopped from calling themselves "Plumbing Engineers," and that is the only sense in which this euphonious title has ever been heard. No legitimate engineer would ever call himself or permit others to call him a "Plumbing Engineer." Why not change the title to read "Assistant Engineer (Building Design, Plumbing)."

198 "Assistant Water Service Engineer."

This is a position technically identical in condition with "Associate Electric Service Engineer." The applicant need not have an engineering education, degree or license, yet it is intended to call him an engineer. The answer is obvious; make him qualify as an engineer, or give him a title which does not require such qualifications.

635 "Senior Industrial Board Engineer"
636 "Senior Industrial Engineer"
217 "Associate Industrial Engineer"

Minimum qualifications "Graduation in mechanical or structural engineering" are misleading and erroneous. Structural design is only a portion of an engineering education. In this case it is recommended that the qualifying words "Mechanical or Structural" be omitted.

615 "Senior Building Research Engineer"

Misnomer; qualifications do not permit engineer to hold the job. This title should be changed, or minimum qualifications amended to permit Engineers as well as Architects to fill the position.

711 "Supervising Power Plant Engineer"

The minimum requirements are incomplete. They specify a graduate Mechanical Engineer but do not state he must have a state license to practice engineering. This position is one of the most responsible in the State. The occupant will have responsibility for the maintenance and operation of about twenty power plants with an aggregate value of about $10,000,000; it calls, therefore, for the technical skill of the graduate mechanical engineer, as per the minimum requirements. But this engineer must be licensed as required by State law. The minimum requirements should be amended to require a State license.

The advantages of the Professional Engineering titles proposed by the Society are:—

1st. ECONOMY. They save printer's ink not only in the Budget itself but in the later handling thru the various Departments of the State Government.

2nd. UNIFORMITY. These positions, after all, belong in the same general category, and their occupants are to be men with the same general education and training. There is no need to crown them with dizzy titles of such recent invention; and there is every reason why they should receive uniform classification with due regards to the specialized work which will be involved in the various Departments.

3rd. EFFICIENT PERSONNEL HANDLING from the Civil Service point of view. All these positions require graduation from an approved technical college and a State license to practice Professional Engineering, certain physical and personal qualifications, as well as a minimum of practical experience. These can be made common requirements for all Engineering positions and the specific requirements can then be set up for the various groups and grades.

The State Society has carefully considered the titles which the Committees' Report recommends for State employees engaged in the operation of Steam Power Plants, and it is the Society's well considered opinion that improvement could readily be made in this direction. The term "engineer" has been used here with considerable latitude and the qualifications set up for the positions do not in general, fit the present occupants. Nor has the importance of the position, in many cases, been sufficiently stressed.

New York State, thru its various Departments, operates some of the largest plants in the world. The Department of Mental Hygiene alone, maintains 19 large institutions, each with an inmate and employee population of from 3,000 to 6,500 people; each a good sized community, complete with all the conveniences and appurtenances necessary to present day existence. Sewers, Sewage Disposal Plants, Water Supply Dams and Reservoirs, Chlorinating Plants, Water Mains for domestic use and fire fighting purposes, telephone and lighting conduit systems. Macadam and concrete roads and walks, motorized equipment, trucks, tractors, busses, snow plows, fire apparatus all must be maintained in first class condition. Each Institution has its Administration Building, Amusement Hall (usually with motion picture and sound apparatus), many large Patients' Buildings and Employees' Homes besides Staff Accommodations Buildings, Dining and Kitchen Buildings; there are also the Buildings used for utilitarian purposes such as the Laundry Building, Bakery Building, Industrial Building, Shop Buildings, Cold Storage Plant and large Power Plants for the generator of Steam and Electric Energy. The equipment for such a community

is a varied and highly technical nature, including in addition to the usual extensive heating, plumbing, ventilating and electric systems in each building, elevators, electric dumbwaiters, refrigeration machinery, laundry, bakery and industrial machinery, and the boilers, generators, pumps, de-aerators, etc. of the power plant proper. A large amount of new construction is performed at these institutions with local forces annually and new work and all the above mentioned maintenance is generally placed under the charge of the Chief Engineer of the Institution.

Some of these Chief Engineers are licensed steam engine operators, but the majority of them do not hold such a license; they are simply men who have worked their way up in the State service from fireman or electrician. The Society considers it a high tribute to these men that they have handled the work as well as they actually have, with their limited knowledge of the theory involved. It has no desire to have them ousted from their present positions nor to see them handicapped in any manner, but it does submit that the State can and should, in the future, secure for such positions, involving responsibility for the maintenance of mechanical and electrical equipment valued at over $1,000,000, and buildings worth another $7,000,000 per Institution, the services of technically trained, graduate Engineers who could and would without question, save their salaries many times over, in such positions. The Society recommends, therefore that the present title of "Chief Engineer" be retained for these Institutions, and that the Committees' Report minimum qualifications be revised to eliminate the requirement which confines such a position to a man having a license to operate a steam engine, and that such an applicant, in the future, be required to be a graduate licensed professional engineer. It further recommends that employees whose duties will lie solely in power plant operation, be designated as "Power Plant Operators" and not "Engineer."

No corporation having such a large investment in plant and machinery would consider placing same in charge of anyone but a trained professional Engineer and there is no reason why the State of New York should not secure similar services.

The Department of Correction maintains Prisons and Correctional Institutions which accommodate from 500 prisoners to about 2500. While not comparable in size to the Institutions of the Department of Mental Hygiene, these not only contain much complicated machinery but perform a larger amount of special fund estimate construction work than their sister institutions of the Mental Hygiene Department. The Society recommends similar future treatment for the Chief Engineer and plant operators of these Institutions to that outlined above for the Department of Mental Hygiene.

In like manner is the Society's recommendations for the State Hospital for Tuberculosis at Raybrook and the State Hospital for Crippled Children at West Haverstraw, both large institutions operated under the direction of the Department of Health. The Institutions at Hudson, N. Y., and similar institutions operated by the Division of Standards and Purchase might well receive similar treatment.

In other words, where the size of the Institution warrants, the Society recommends the employment of trained professional engineers with proper experience in both power plant operation and building construction, in the supervision of all maintenance and new local construction. Where the size of the Institution does not so warrant, it is recommended that the title "engineer" be replaced by a title more suitable to the position and indicative of the nature of its duties. Such titles have already been set up by the Joint Legislative Committee in their Report.

With respect to the State Budget now being prepared for submission to the 1933 Legislature the Society recommends:—

1. That the practice of grouping fireman and mechanics under the heading "Mechanical Engineering" be changed, for the various institutions and this heading be amended to read "Mechanical Maintenance" or "Mechanical work." Mechanical Engineering is a College course and the title has been mis-applied here.

2. That the practice of designating as engineers the employees' whose duties are simply the operation of heating boilers, repairing radiator leaks and other janitorial duties cease and that these employees be designated by some other title than "engineer." There is attached a tabulation of such existing positions in the State Educational Institutions which sets forth the conditions deemed unsatisfactory by the Society. It is felt that there is no excuse for the present titles, that they are probably the outgrowth of the days when a man received a title in lieu of a raise in pay.

3. That the State Employees engaged in operating large power plants be designated as "power plant operators" instead of "power plant operating engineers" or "power plant shirt engineers."

4. That Budget positions be set up in the form and titles recommended in the Society's suggestions on the Joint Legislative Committees' Report, producing economy in printing as well as more appropriate and more effective use of the title.

EXAMPLES OF CHAPTER RECOMMENDATIONS

Reclassification Committee Title	Proposed Revised Title	See Report Page
	Building Design:	
"Asst. Building Electrical Engineer"	"Asst. Engineer, Electrical"	128
"Asst. Building Structural Engineer"	"Asst. Engineer, Structural"	128
"Asst. Heat'g & Ventila'g Engineer"	"Asst. Engineer, Mechanical"	163
Assistant Plumbing Engineer"	"Asst. Engineer, Plumbing"	177
"Assoc. Bldg. Electrical Engineer"	"Assoc. Engineer, Electrical"	205
"Assoc. Bldg. Structural Engineer"	"Assoc. Engineer, Structural"	205
"Associate Plumbing Engineer"	"Assoc. Engineer, Plumbing"	225
"Chief Bldg. Mech. Engineer"	"Chief Engineer, Mechanical"	263
"Jr. Bldg. Electrical Engineer"	"Jr. Engineer, Electrical"	473
"Jr. Heat'g & Ventilat'g Engineer"	"Jr. Engineer, Mechanical"	477
"Jr. Plumbing Engineer"	"Jr. Engineer, Plumbing"	484
"Principal Bldg. Mech. Engineer"	"Principal Engineer, Mech."	536
"Sr. Bldg. Electrical Engineer"	"Sr. Engineer, Electrical"	614
"Sr. Bldg. Research Engineer"	"Sr. *Architect*, Research"	615
	(Note qualification)	
"Sr. Bldg. Structural Engineer"	"Sr. Engineer, Structural"	615
"Sr. Heat'g & Ventilat'g Engineer"	"Sr. Engineer, Mechanical"	633
"Senior Plumbing Engineer"	"Sr. Engineer, Plumbing"	654
	Building Construction:	
"Asst. Mech. Construction Engineer"	"Asst. Engineer, Mechanical"	173
"Assoc. Bldg. Construction Engineer"	"Associate Engineer"	204
"Assoc. Mech. Construct'n Engineer"	"Assoc. Engineer, Mech."	222
"Principal Bldg. Construct'n Office Engineer"	"Principal Engineer, Office"	536
"Sr. Bldg. Construction Engineer"	"Senior Engineer"	614
"Senior Contract Engineer"	"Sr. Engineer, Contracts"	621
"Sr. Mech. Construction Engineer"	"Sr. Engineer, Mechanical"	648
	Highways:	
"Asst. Civil Engineer (Highways)"	"Assistant Engineer"	133
"Assoc. Civil Engineer (Highways)"	"Associate Engineer"	207
"Junior Civil Engineer (Highways)"	"Junior Engineer"	473
"District Engineer"	"District Engineer"	* 358
"Principal Highway Office Engineer"	"Principal Engineer, Office"	546
"Sr. Civil Engineer (Highways)"	"Senior Engineer"	617
	General:	
"Asst. Civil Engineer (General)"	"Assistant Engineer"	133
"Assoc. Civil Engineer (General)"	"Associate Engineer"	207
"Assoc. General Office Engineer"	"Assoc. Engineer, Office"	213
"Jr. Civil Engineer (General)"	"Junior Engineer"	473
"Senior Civil Engineer (General)"	"Senior Engineer"	617
"Chief Engineer of Dtpt. of Public Works"	"Chief Engineer of Dept. of Public Works"	* 269
	Laboratory:	
"Asst. Laboratory Engineer"	"Assistant Engineer"	169
"Associate Laboratory Engineer"	"Associate Engineer"	221

A Transcontinental Highway

(Continued from Page 11)

Any new appropriation made today should be measured by this yardstick: will it make for better business and more business? Expenditures made in accordance therewith are not only truly economic but essential at the moment if we hope to bring the country out of the present despond of depression. A super-transcontinental highway, planned to meet the needs of the country as a whole without regard to political aspirations of specific localities or sections, is today desperately needed. If this highway is planned to meet best the traffic needs of the country as a whole, coordinated and located in such a manner as to offer the maximum of convenience to the greatest number, there would be little call to prove its profitable return to the country.

Failure to accomplish this objective in the past should not deter a sincere effort today to survey its possibilities and to strive to set up a proposal that can be pointed to by all agencies interested as the most practical and the ideal highway for the United States. It is felt that the interest of the steel construction industry in this enterprise is no greater than the interest of other industries which will contribute to the construction of the road, and their interest is by no means superseded by the interest of the Bureau of Public Roads and the War Department for the highway will not only prove an economic advantage, but likewise a valuable artery of defense.

It has been suggested that the Federal Government grant a franchise with the power of eminent domain and that private capital finance the construction through a bond issue to be sold to the public. However financed the road would be a self-sustaining, self liquidating project therefore it would be very proper to seek asistance from the Reconstruction Finance Corporation. If built by a private corporation a recapture clause could be inserted in the charter that would divert the rights to the states after the bond issue had been paid.

A suitable toll, based on mileage, could be charged for passenger automobiles and other tolls obtained from buses, trucks, etc. Freight charges might be equalized with prevailing railroad rates. Concession rights would result in substantial income. The latter would include restaurants, hotels, garages, service stations, motion picture rights, advertising, camping facilities, etc.

A preliminary canvass indicates that responsible engineers are of the opinion that the road is thoroughly practical. The highway could embody architectural treatment to avoid objectionable physical appearance. This is possible of accomplishment without additional expense. The consensus of opinion is that the road should avoid all cities, but run-offs can be provided at suitable places to the cities en route.

The construction cost would proobably not exceed $75,000 per mile.

It is the quickest and most practical method of meeting the unemployment situation. Actual work is of such a nature that it could be started in each state within a short time.

About 80 cents out of every dollar would be invested in indirect and direct labor.

Engineers and workmen would be engaged for designing and erecting bridges, buildings along the way, grade separations and connections to other roads and to manufacture machinery for construction work. It involves mining of coal, iron ore and limestone, making of coke, steel, cement, requiring quantities of lumber, sand and stone. It aids the merchants in the districts through which the road runs. Every dollar for the cost of the road will bring into activity several other dollars. All of this would mean work for thousands ot engineers and several millions of workmen.

The announcement of such a huge construction program would make a dramatic appeal to the American people.

It would reduce the time in crossing the country materially and correspondingly reduce cost of wear and tear on the vehicles, with less chance of accidents.

It would prove to be an important military artery in times of emergency.

It would be the means of developing territory through which the highway passed.

It would prove to be an economic and commercial contribution of great value.

It would encourage similar highways running North and South.

It would bring the cities en route into closer contact and advance commercial relations.

The people within each state would have such a keen interest that the bond issue should prove attractive to them.

The highway could be completed at appromixately one half the cost that would be necessary during normal periods.

It would promote a greater sale of automobiles, trucks and buses as well as other accessories needed in their operation.

It would revive purchasing power as large numbers of men were given employment and this revival would spread throughout the states through which the highway passed instead of being localized.

* * *

Registration of Licensing

(Continued from Page 10)

Mr. White: I should also like to have Mr. Lowe state what the trend of legal opinion is with reference to permitting corporations to practice professions.

Mr. Lowe: Mr. White's letter, page 2, paragraph 5. Up until about a year ago there was an increasing tendency apparent to us for corporate exercise of many functions historically limited to individuals. In the last year or two, this attitude towards corporate rendition of personal services has changed against corporations, as we see it. This is partly due to the attack on fiduciary companies on the part of lawyers, on dental corporations, on drug companies, and, to some extent, dissatisfaction with solution of engineering problems by corporations engaged in that line of work. Particularly in answer to Mr. White's question, the trend of legal opinion seems to us to be against corporate exercise of such functions, on account of the peculiar responsibility to clients in any profession which the corporation is at least partly able to evade.

* * *

Mr. White: Several of the State laws do not mention the registration of corporations, but in the rules of the Examining Boards they have paragraphs similar to Section 3 of the Illinois Architectural Act. Could the Examining Boards enforce that paragraph as a rule of the Board, or must it be in the law to be effective.

Mr. Lowe: Mr. White's letter, page 3, 1st paragraph. If the general status has a provision that the Board can set up reasonable rules and requirements as tests of applicants for registration, then Section 3 of the Illinois Architectural Act of 1927 could be enforced indirectly through such rules. This would be implied in Section 6 of the Model Law and also Sections 20 and 21. However, it would be more clear-cut and enforcible to have the provision under discussion actually in the statute itself, as then there would be no question as to what the law was and no question as to the power of the board of examiners, or as to the reasonable exercise of the board's discretion.

* * *

Mr. White: I am enclosing a statement prepared by Mr. E. S. Hall (Legal Regulation of Architectural Practice) and wish to know whether this correctly states the distinction between titular registration and licensure.

Mr. Lowe: As to Mr. Hall's memorandum, we do not altogether agree that there is any difference in effect between a registration law and any licensing statute. The chief purpose of either registration or license is to provide the protection to the public, which Mr. Hall speaks of, through furnishing public approval and certification of the man who is to be registered or licensed, whether it be to practice architecture or peddle fish. Licensing is generally spoken of, being the older word in common use, in relation to tax revenue derived from certain occupations, while registration, as Mr. Hall points out, implies a more formal kind of license, depending upon examination of the applicant as to fitness, etc.

Another reason for the registration term being used is to afford the means of easily identifying all registered persons by use of the letters R. A. or Registered Architect, R. N., Registered Nurse, etc., while on the other hand, as is well known, doctors and lawyers are licensed to practice, although they are registered on public lists.

In this connection it might be interesting to read over the discussion by Dr. William Osler in his address to the Maryland Medical Society in 1889 entitled "The License to Practice," which dwells on both the characteristics of licensing and registration.

For practical and legal purposes, either registration or licensing can be

developed as far as the other, but we do think that in the popular mind the term registration is more formal and carries to the public more of a professional idea than does the term license. As far as any legal requirement is concerned, the terms are interchangeable.

There is no question about the point made by Mr. Hall that the educational departments of the states through their control of examination of applicants and subsequent registration, are charged with the duty in law of keeping up the standards of any profession.

Registration is based solely on the proved ability of the individual to do the thing competently which the title under which he is registered implies. It amounts to the granting of an educational title or degree. Naturally and logically it falls administratively under the department of education of state government.

Registration as such does not command the employment of anybody by anybody to do anything. It guarantees to everybody that the legal right by a certain individual to use a certain title assures that there has been reasonably sure legal proof of that individual's competency in the work implied by the title he rightly assumes.

There is practically no limit as to the reasonable rigidity and comprehensiveness of registrational restrictions. The individual does not have to use the title, but if he does use the title, he must meet the requirements. If he calls himself an architect, he must be in every sense competent to do the work of an architect.

Licensure to do anything implies that the doing of that thing is restricted to those individuals who are licensed. Such restriction is justified only under the limited police power of the state. The police power of the state is confined within the scope of those things deemed essential to public health and safety. Under acts of licensure the candidate for licensure can only be examined legally on those subjects that have to do with public health and safety. The state has no legal right to question the applicant concerning cultural background, history, esthetics, etc. In fact, the examination must be wholly confined to structural, electrical, and sanitary engineering subjects and architectural design only in so far as the matter of plan affects ingress, egress, panic, etc., —questions only of safety and health.

If a profession is to be established as a learned profession, it must be done by titular registration with rigid examinational requirements. If architecture is to be sold to the public on the basis of merit, those having the right to use the title architect must have appropriate educational background and be of legally proven competency in all of the diversified functions of an architect.

It is evident, therefore, that in order to put the architectural profession on a skilled and learned standard, the only legal method to do this is under the educational system of the state through titular registration. This means that in the registration law itself there shall be no restriction as to the employment of an architect.

Where there is a registration law for architects there seems to be no reason why a municipality, county, or the state itself may not, in its own interest, specify that certain of its own work, or in the case of municipalities, concerning certain work by private individuals to be executed within its corporate territorial limits, specify that that work shall be designated and supervised by a legally registered architect of that jurisdiction.

Editor's Comment:

For the information of those who perhaps have not been sufficiently interested to make their own researches the following, from Webster's International Dictionary published in 1931, is quoted:

License:—Authority or liberty given to do or forbear any act; permission to do something (specified); esp. a formal permission from the proper authorities to perform certain acts or to carry on certain business which, without such permission, would be illegal; also, the document embodying such permission; as, a license to preach, to practice medicine, to sell gun powder or intoxicating liquors.

Registration:—Act or fact of registering; a recording; esp. official or automatic recording; registry; enrollment; also, an entry in a register. People register; in hotels; at conventions; in cities or nations; deeds and documents generally; mail, births, deaths, marriages, etc. Over a thousand words are devoted to describing register, none of which indicates that licensing and registering are synonymous.

Funk & Wagnall's Standard Dictionary defines both words almost exactly as does Webster's.

A review of sources of information concerning synonyms and antonyms, such as the latest complete Rogat's Thesaurus, does not indicate a single instance wherein the words registration or register and license are synonymous. A reference to synonyms and antonyms discloses that:

	Synonyms	Antonyms
to license is	to authorize or permit	to prohibit
to register is	to record or enter	to obliterate

There is little doubt that R. E. or R. A. sounds better than L. E. or L. A. but to the contention that registration is equivalent to or has the force of licensing is not substantial by logic or etymology. Perhaps doctors and lawyers have a reason for preferring license to registration.

The License Law Since 1920

(Continued from Page 9)

(7) Practice of P. E. or L. S. by an employee of a county or town on county roads or town highways; or by an employee of a county, city, town or village on public works where the contemplated expenditure does not exceed $5,000. Section 1463.	No change. Section 1463.	No change. Section 1457.
(8) Practice of P. E. or L. S. solely as an officer or an employee of a corporation engaged in interstate commerce. Section 1463.	No change. Section 1463.	No change. Section 1457.
No provision.	No provision.	Practice as P. E. or L. S. exclusively as an officer or employee of a public service corporation in connection with its lines and property which are subject to supervision by the Public Service Commission of this state, the Interstate Commerce Commission, or other federal regulatory body, so long as such person is actually and exclusively so employed and no longer. Section 1457.
	Seals of Licensees.	
Each licensee may obtain a seal of the design authorized by the board. Section 1461.	No change. Section 1461.	No change in provision, but a slight change in wording. Section 1450.

Plans, specifications, plats and reports issued by a licensee may be stamped with said seal so long as the licensee is legally entitled to practice. Section 1461.	No change. Section 1461.	All plans, specifications, plats and reports shall be stamped with said seal of a P. E. or L. S., when filed with public officials. Section 1450.
No provision.	No provision.	No data required to be filed concerning the construction or alteration of buildings or structures shall be accepted or approved by an official of this state or of any city, town, or village therein, unless stamped with the seal of licensed P. E., or of a licensed Architect. Section 1450.
No provision.	No provision.	A license may be revoked upon proof that the holder of such license permitted his seal to be affixed to any plans, specifications or drawings that were not prepared by him, or under his personal supervision by his regularly employed subordinates. Section 1454.

Comment: The American Engineer commends the Board and especially Secretary Finch for this splendid compilation. Every practising engineer as well as every prospective engineer should read and file for future reference this memorandum. It will be well worth his while to do so.

(Continued in Next Issue)

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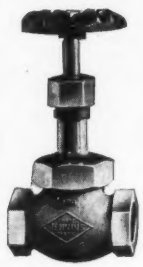

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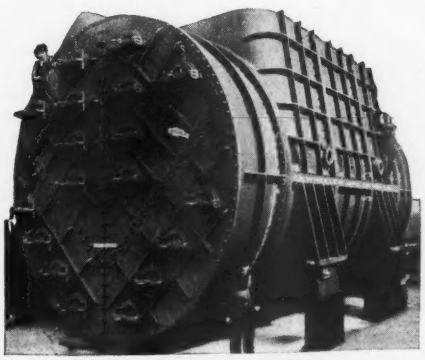

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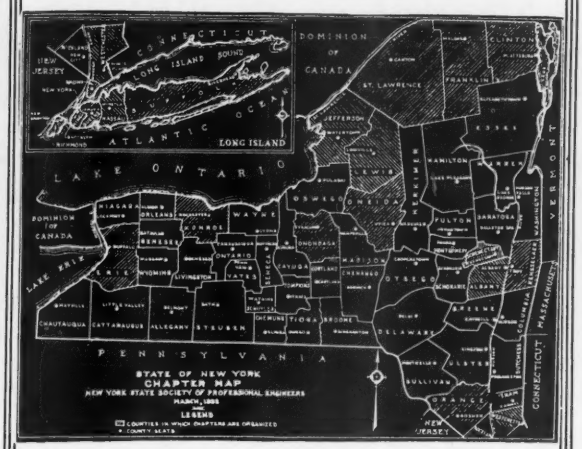

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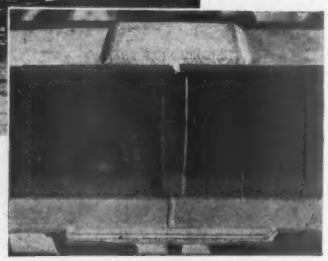

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